Model 2100 GW PLURAL COMPONENT SPRAY GUN

2100-XXXX-XGW

GENERAL

The 2100 GW gun is a lightweight, hand-held, plural component spray gun for spraying limited applications of two-component materials, such as gel-coats or polyesters. The spray gun is operated in the conventional manner. The trigger action starts, and stops, the spray of both materials simultaneously. The two materials exit separately as an atomized spray from their respective nozzles and impinge on each other approximately 6" in front of the gun (resin) nozzle. Here, the resulting turbulence insures intimate mixing.

The "base" resin is "cured" by addition of a curative (catalyst) in a required ratio. In the 2100 GW gun, ratios of approximately 10:1 to perhaps 33:1 are possible by extending the curative with a compatible diluent.

Preferably, the resin should be supplied from a pressure cup mounted either on the gun or located remotely from it. In some applications, a siphon cup may be acceptable.

The curative is supplied from a siphon container assembly (57) mounted directly on the gun. Air, diverted from the gun handle, passes through the air adjusting valve (39) to the nozzle body (55) to provide the siphon action and to serve as atomizing air for the curative. The adjustable fluid control (44) meters the flow of curative.

SINCE THE CURATIVE CONTAINER IS A SIPHON DEVICE ITS VENT HOLE MUST ALWAYS BE KEPT OPEN. THE VENT HOLE IS LOCATED IN THE COVER AT THE REAR (SEE ILLUSTRATION).

NOZZLE CHARACTERISTICS AND SPRAY PATTERNS

The 2100 GW gun uses external atomizing nozzles* to produce finer atomization and better control of the spray pattern. The pattern can be changed from round to fan and to all intermediate shapes by adjusting the side port control (2) on the gun. The pattern also can be rotated to any position in 360º by loosening the retaining ring on the nozzle (12). Intimate intermixing and distribution of the curative within the primary material is maximum when the long dimension of the fan spray pattern is vertical (lined up with the gun handle).

The resin delivery rate of external atomizing nozzles is in the low to medium range.

See "Important Adjustment Note" page 2.

RESIN VOLUME OUTPUT

Resin output is controlled by two variables:
1. Nozzle orifice size, air or resin.
2. Air and/or resin pressures.

Precise resin pressures can best be controlled by a fluid regulator, tank, or pump pressure.

Minute adjustments in flow can be made with the control screw (17) which restricts the travel of the resin needle (15).

CURATIVE VOLUME OUTPUT

Output of the curative is controlled by four variables:
1. Curative nozzle orifice size.
2. Air adjustment control (39).
3. Adjustment of needle stem (44).
4. Extending (diluting) the curative.

**Where atomization occurs entirely outside of the gun.*

NOTE

The curative and resin mix with each other outside of the gun. Purging of the gun and nozzles is not necessary as catalyzed resin never enters the gun passages.

VOLUME RATE OF FLOW CALCULATIONS

RESIN: With atomizing air off and with resin pressure on, dispense resin into a graduate or into a clean container (resin can be reused) for 15 seconds. Multiply this volume of resin by four to determine volume rate of flow per minute. Increase or decrease resin pressure as required to obtain desired volume rate of flow.

CURATIVE: Turn off resin supply to gun. Fill the container (45) with a measured amount of curative (a substitute fluid may be used such as a solvent or water.) Depress gun trigger and spray until fluid starts to "spit". Check elapsed time and calculate volume rate of flow per minute. Repeat sampling, after resetting air adjusting valve (39) and/or needle stem (44) to obtain desired flow.

Curative (residual less diluent) to resin volumetric ratio is specified by the chemical manufacturer. With polyesters, for example, the ratio usually is from 1/2 percent to a maximum of approximately four percent. These ratios are based on theoretical requirements, and laboratory samples of about one pint (500 cc) that cover minimum surface areas. However, spray applications cover maximum surface areas. For this reason, and because of loss of exothermic heat and, perhaps, some loss of curative in overspray, it is suggested that spray samples be made, and that optimum cure times be established by increase or decrease in the volume of curative.

It should be noted that the air valve (9) is designed to open slightly before the resin valve (15). The air valve also allows the curative to flow before the resin does. For this reason, air

Continued on page 6

Replaces Part Sheet 77-2936R | **Part Sheet 77-2936R-1**

In this part sheet, the words **WARNING**, **CAUTION** and **NOTE** are used to emphasize important safety information as follows:

⚠ WARNING	⚠ CAUTION	NOTE
Hazards or unsafe practices which could result in severe personal injury, death or substantial property damage.	**Hazards or unsafe practices which could result in minor personal injury, product or property damage.**	**Important installation, operation or maintenance information.**

⚠ WARNING

Read the following warnings before using this equipment.

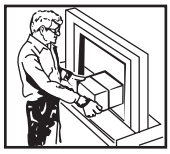
READ THE MANUAL
Before operating finishing equipment, read and understand all safety, operation and maintenance information provided in the operation manual.

WEAR SAFETY GLASSES
Failure to wear safety glasses with side shields could result in serious eye injury or blindness.

DE-ENERGIZE, DEPRESSURIZE, DISCONNECT AND LOCK OUT ALL POWER SOURCES DURING MAINTENANCE
Failure to De-energize, disconnect and lock out all power supplies before performing equipment maintenance could cause serious injury or death.

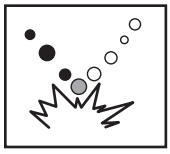
OPERATOR TRAINING
All personnel must be trained before operating finishing equipment.

EQUIPMENT MISUSE HAZARD
Equipment misuse can cause the equipment to rupture, malfunction, or start unexpectedly and result in serious injury.



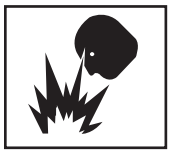
KEEP EQUIPMENT GUARDS IN PLACE
Do not operate the equipment if the safety devices have been removed.

HIGH PRESSURE CONSIDERATION
High pressure can cause serious injury. Relieve all pressure before servicing. Spray from the spray gun, hose leaks, or ruptured components can inject fluid into your body and cause extremely serious injury.



PLURAL COMPONENT MATERIALS HAZARD
Because of the vast number of chemicals that could be used and their varying chemical reactions, the buyer and user of this equipment must determine all facts relating to the materials used, including any of the potential hazards involved.

NOISE HAZARD
You may be injured by loud noise. Hearing protection may be required when using this equipment.



FIRE AND EXPLOSION HAZARD
Improper equipment grounding, poor ventilation, open flame or sparks can cause hazardous conditions and result in fire or explosion and serious injury.

PINCH POINT HAZARD
Moving parts can crush and cut. Pinch points are basically any areas where there are moving parts.

KNOW WHERE AND HOW TO SHUT OFF THE EQUIPMENT IN CASE OF AN EMERGENCY

PRESSURE RELIEF PROCEDURE
Always follow the pressure relief procedure in the equipment instruction manual.

PROP 65 WARNING
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

IT IS THE RESPONSIBILITY OF THE EMPLOYER TO PROVIDE THIS INFORMATION TO THE OPERATOR OF THE EQUIPMENT.

FOR FURTHER SAFETY INFORMATION REGARDING BINKS AND DEVILBISS EQUIPMENT, SEE THE GENERAL EQUIPMENT SAFETY BOOKLET (77-5300).

⚠ WARNING

When using Binks equipment with Methyl Ethyl Ketone Peroxide in Plasticizer OBSERVE the following precautions

CORROSIVE TO THE EYES – MAY CAUSE BLINDNESS. MAY BE FATAL IF SWALLOWED. STRONG IRRITANT. CONTAMINATION OR HEAT MAY LEAD TO FIRE OR EXPLOSIVE DECOMPOSITION. COMBUSTIBLE.

Do not handle or use until safety precautions concerning Methyl Ethyl Ketone Peroxides in the Manufacturer's literature have been read and understood.

Contact with foreign materials, especially strong mineral acids, metals (including certain equipment and containers) or metal salts, or exposure to heat above 135° F (57° C) may lead to violent decomposition, releasing flammable vapors which may self-ignite.

Do not get into eyes or on skin or clothing. Wear eye and skin protection when handling. Avoid breathing mist. Use with adequate ventilation. Store only it in the original closed container. Wash hands thoroughly after handling. Protect from direct sunlight, heat, sparks and other sources of ignition. Prevent contamination with foreign materials. Do not add to hot materials.

FIRST AID

EYES
Wash immediately (seconds count) with water and continue washing for at least 15 minutes. Obtain medical attention.

SKIN
Wash with soap and water. Remove contaminated clothes and shoes and again wash thoroughly with soap and water.

SWALLOWING
Administer large quantities of milk or water. Obtain immediate medical attention for lavage.

To maintain the chemical activity store below 100° F (38° C).

In case of fire, use water spray, foam or dry chemical.

In case of spill or leak, absorb or blend with inert, non-combustible material. Put in suitable container. Dispose of immediately in accordance with federal, state and local regulations.

Do not reuse container as some of the original hazardous contents may still be present.

Follow the above precautions in handling.

READ & UNDERSTAND THE MATERIAL SAFETY DATA SHEET FROM MATERIAL SUPPLIER

⚠ WARNING

Model 2100 GW Gun is constructed with components of aluminum alloy and SHOULD NOT be used with any Halogenated Hydrocarbon solvents.

HALOGENATED HYDROCARBON SOLVENTS CAN CAUSE AN EXPLOSION WHEN IN CONTACT WITH ALUMINUM COMPONENTS OF A PRESSURIZED OR CLOSED FLUID SYSTEM (PUMPS, HEATERS, FILTERS, etc.)

The same possibility of an explosion is possible with the galvanized coatings in pressure tanks. The possibility of a non-flammable explosion increases greatly at high operating temperatures.

The explosion could be of sufficient strength to cause bodily injury, death, and substantial property damage.

Cleaning agents, coatings, or adhesives may contain HALOGENATED HYDROCARBON SOLVENTS. CHECK WITH YOUR SOLVENT AND PAINT SUPPLIER.

If you are now using a Halogenated Hydrocarbon Solvent in a pressurized fluid system with aluminum components or galvanized wetted parts, the following steps should be taken immediately:

1. Remove all pressure; drain and disconnect the entire system.
2. Inspect and replace all corroded parts.
3. Contact your solvent supplier for a NON-HALOGENATED SOLVENT to flush and clean the system of all residues.

HALOGENATED Solvents are defined as any hydrocarbon solvent containing any of the following elements:

CHLORINE	"CHLORO" (Cl)
BROMINE	"BROMO" (Br)
FLUORINE	"FLUORO" (F)
IODINE	"IODO" (I)

Of those listed, the Chlorinated Solvents will most likely be the type used as a cleaning agent or solvent in an adhesive or coating. The most common are:

METHYLENE CHLORIDE

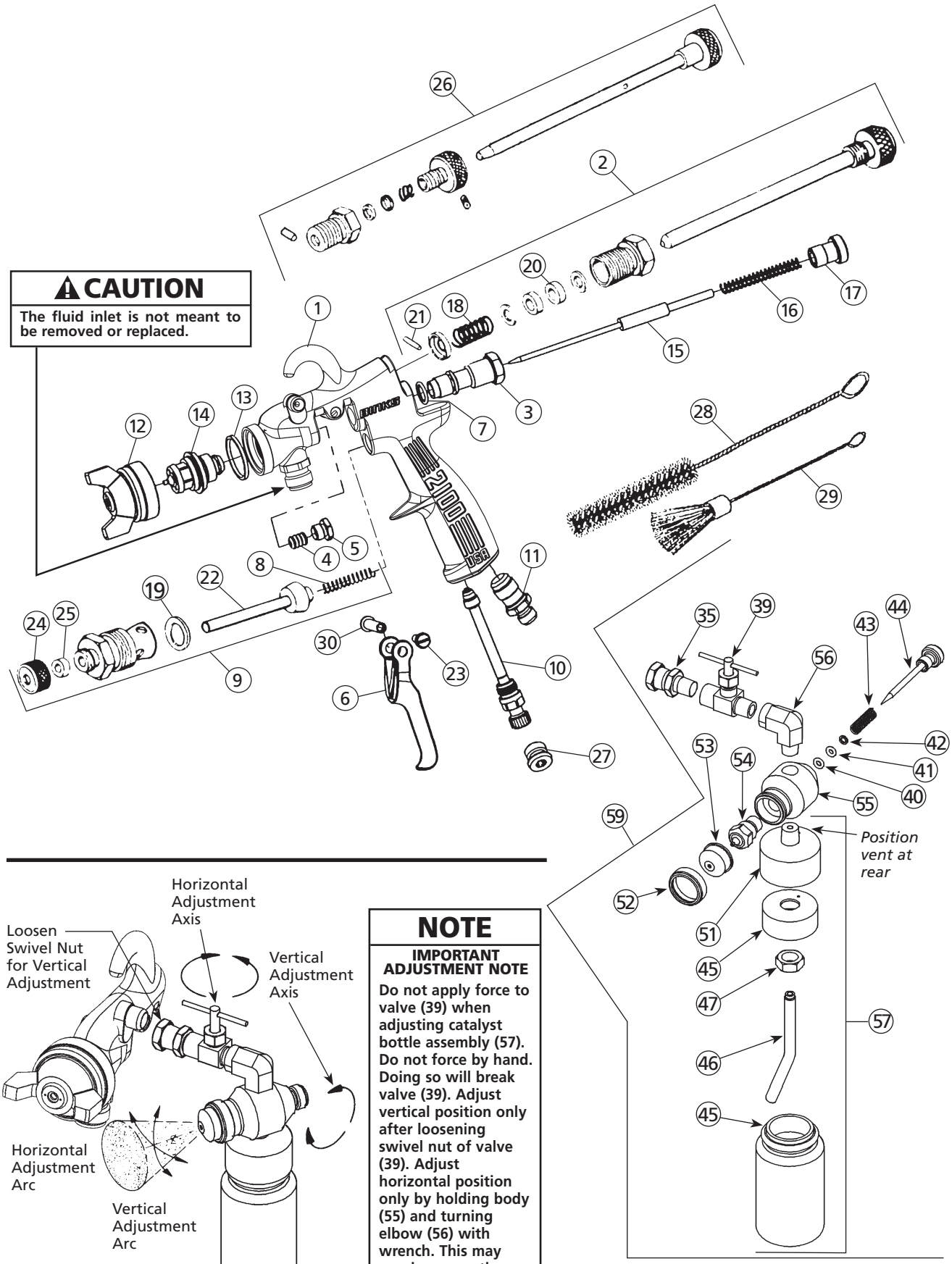
1,1,1, TRICHLORETHANE

PERCHLORETHYLENE

Although stabilizers have been added to some of the solvents to reduce their corrosive effect, **we are aware of none that will prevent these solvents from reacting under all conditions with aluminum components or galvanized coatings.**

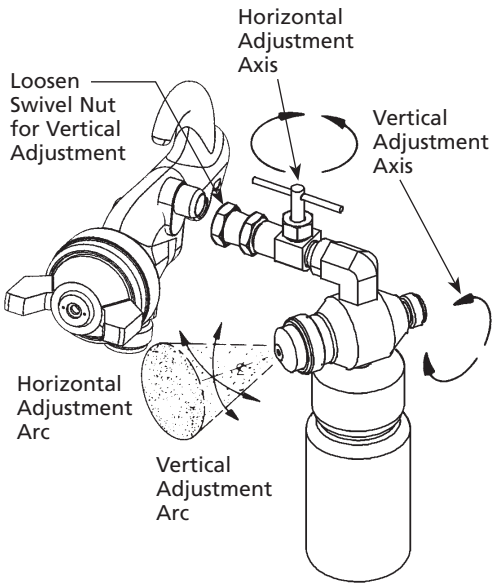
Previous use of the solvents under pressurized conditions, without incident, does not necessarily indicate that it can be considered safe.

Binks Model 2100 GW SPRAY GUN



⚠ CAUTION

The fluid inlet is not meant to be removed or replaced.



NOTE

IMPORTANT ADJUSTMENT NOTE

Do not apply force to valve (39) when adjusting catalyst bottle assembly (57). Do not force by hand. Doing so will break valve (39). Adjust vertical position only after loosening swivel nut of valve (39). Adjust horizontal position only by holding body (55) and turning elbow (56) with wrench. This may require separating the valve and catalyst bottle assemblies from the gun at the swivel (35).

NOTE

Use PTFE tape to ensure sealing and to prevent "galling" on all "wetted" catalyst threads.

Binks Model 2100 GW SPRAY GUN

PARTS LIST

When ordering, please specify Part No.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	—	2100 GUN BODY	1
2	54-3347	SIDE PORT CONTROL ASSEMBLY	1
3	54-1013	MATERIAL BODY	1
4	2-28-5 ❍■★+	PTFE PACKING	1
5	56-164	PACKING NUT	1
6	54-5458	2100 TRIGGER	1
7	20-5285-5 ❍■+	O-RING VITON	1
8	54-750-5 ❍■+	SPRING	1
9	54-1236	AIR VALVE ASSEMBLY	1
10	SGK-457	AIR ADJUSTMENT VALVE	1
11	54-768	AIR CONNECTION	1
12	SEE FOOTNOTE 1	AIR NOZZLE	1
13	54-918-5 ❍■+	GASKET	1
14	SEE FOOTNOTE 1	FLUID NOZZLE	1
15	SEE FOOTNOTE 2	FLUID NEEDLE	1
16	54-1347-5 ❍■+	SPRING	1
17	54-1007	CONTROL SCREW	1
18	54-304-5 ❍■+	SPRING	1
19	20-3757 ■+	O-RING	1
20	54-738-5 ❍■+	PACKING	1
21	54-1014-5 ❍■+	PIN	1
22	54-1025 ■+	VALVE STEM ASSEMBLY	1
23	82-126-5 ❍	SCREW	1
24	82-135-5 ❍	NUT	1
25	82-158-5 ❍■+	PACKING	1
26	54-1780 •	QUICK CHANGE SIDEPORT CONTROL (OPTIONAL)	1
27	JGA-132 •	PLUG (OPTIONAL)	1
28	82-469	ROUND BRUSH	1
29	OMX-88	FLAT BRUSH	1
30	54-1020	STUD	1
35	107-1672	SWIVEL ADAPTER	1
39	107-1671	AIR ADJUSTING VALVE	1
40	20-4997 ♦■	O-RING (Silicone)	1
41	20-3562 ♦■	O-RING (PTFE)	1
42	50-12 ■	WASHER	1
43	57-114 ■	SPRING	1
44	102-1818	STEM ASSEMBLY	1
45	102-2188 ■	CONTAINER & CAP ASSEMBLY	1
46	102-2184	TUBE	1
47	20-6675	JAMNUT	1
51	102-2209	CAP HOLDER	1
52	54-2788	RETAINER RING	1
53	46-1042	AIR NOZZLE (R6 Stainless Steel)	1
54	45-1023	FLUID NOZZLE (J3 Stainless Steel)	1
55	102-1799	NOZZLE BODY	1
56	20-3645	STREET ELBOW 1/8 NPT	1
57	102-2210	CATALYST BOTTLE ASSEMBLY	1
59	102-2243	CATALYST ATOMIZING ASSY.	Ref.

❍ Available only as 5-Pack.

■ Also available in Spare Parts Kit 106-1154. See table below for kit content. Kit not furnished, please order separately.

\+ Also available in Spare Parts Kit 6-229 (2100 Gun). See table below for kit content. Kit not furnished, please order separately.

★ Alternate needle packing (optional) 54-747-5.

• Accessory item.

♦ Item 40 (Silicone o-ring) furnished with gun is designed for MEKPO service. Item 41 (PTFE o-ring) alternate for item 40 when specified, is compatible with all solvents. However, it is not an elastomer and may present difficulty when attempting to achieve a comparable seal.

1 Be sure to specify number stamped on air nozzle and fluid nozzle, or see Nozzle Selection Chart.

2 Be sure to specify number stamped on needle valve stem and spray gun model when ordering.

Spare Parts Kit 106-1154 complete	Item Number	4	7	8	13	16	18	19	20	21	22	25	40	41	42	43	45
	Quantity	1	1	1	2	1	1	1	2	1	1	1	1	1	1	1	1

Spare Parts Kit 6-229 2100 Gun only	Item Number	4	7	8	13	16	18	19	20	21	22	25
	Quantity	1	1	1	2	1	1	1	1	1	1	1

Binks Model 2100 GW SPRAY GUN

Continued from page 1

should not be used to "blow-off" surfaces as this will also dispense curative. If the air is used to "blow-off" surfaces, the air adjusting valve assembly (39) serving the curative supply, must be closed.

Since this procedure changes the setting of the air adjusting valve, it is suggested that the position of the air adjusting valve (39) be marked. This will permit returning quickly to the correct setting for flow of curative previously established.

VARYING THE SPRAY PATTERN

The fan spray pattern can be changed quickly and easily by adjusting the side port control (2). Turning the knurled knob (2) clockwise until it is closed will give a round spray pattern; turning it counter-clockwise will change the pattern from round to elliptical, forming a fan-shaped spray. The width of the fan spray can be varied within the limits of the particular air nozzle being used. The long dimension (length) of the fan spray can be oriented either horizontally or vertically, or any other position in 360º, by turning the air nozzle (12) to the desired position and tightening the retainer ring.

VARYING THE SPRAY RATE

If a pressure cup is used, the amount of resin flow can be varied by regulating the air pressure on the cup. The amount of resin flow can also be varied by adjusting the control screw (17). Turning this screw clockwise reduces the flow, counter-clockwise increases it.

FAULTY RESIN SPRAY PATTERN

A faulty spray is caused by an obstruction in the flow path, caused usually by dried material around the resin nozzle tip (14), or in the air nozzle (12), resulting from incomplete cleaning. To remove such obstructions, soak these parts in a solvent that will soften the dried material, then wipe them clean with a brush or cloth. Do not use metal instruments to clean the air nozzle or resin nozzle. These parts are precision machined and any damage to them will cause a faulty spray. If either the air or resin nozzle is damaged, the part must be replaced before a perfect spray can be obtained.

FLUID PACKING REPLACEMENT

Remove resin control screw (17), spring (16) and needle (15). Remove resin packing nuts (5) and remove old packing (4) with a small stiff wire. Insert new packing (oiled lightly) and reassemble in reverse order. To "set" packing, insert needle (15), tighten packing nut (5) until needle movement is sluggish (held too tightly for the spring to move). Then loosen nut 1/2 to 3/6 turn.

CORRECTING AIR LEAK THROUGH THE GUN

Air leaking through the gun is caused by the valve stem assembly (22) not seating properly against the valve body. Remove valve body and valve stem assembly and clean thoroughly. Replace worn or damaged parts and reassemble in reverse order.

CORRECTING AIR LEAK AROUND AIR VALVE STEM

Air leaking around the air valve stem (22) may be caused by worn packing (25) or damaged air valve stem (22). Remove trigger (6), packing nut (24) and packing (25). Clean extended portion of air valve stem and inspect for damage. If stem is damaged, remove as described in previous paragraph. Replace stem, insert new packing, and reassemble in reverse order.

CLEANING THE GUN—WHEN USED WITH "REMOTE" PRESSURE CUP

Shut off the air supply to the pressure cup and release the pressure in the cup. Leave the pressure release vent open. Hold a piece of cloth over the gun nozzle and depress the trigger. The air will back up through the resin nozzle and force the resin out of the hose and into the cup. Remove resin from cup. Clean out cup, close pressure release vent and pour in enough clean compatible solvent to clean out the hose and gun thoroughly. Spray this solvent through the fluid hose and gun until it comes through clean. Separate the gun from the resin hose. Hook up the resin hose to an air line and blow air through it until it is dry.

FLUSHING WITH A SIPHON CUP

A compatible solvent may be siphoned through gun by inserting tube from siphon cup in an open container of solvent. Trigger gun intermittently to flush passageways and internal parts thoroughly.

PREVENTATIVE MAINTENANCE

The 2100 GW gun requires only general preventative maintenance. This includes good housekeeping practices such as:

1. Periodic internal inspection and cleaning.
2. Lubrication of stud (trigger pivot) (30); exposed portion of needle (15); and needle valve spring (16).
3. Keep exterior of gun clean as possible.
4. Replace worn or broken parts. Replace seats that continue to leak after servicing.
5. Use wrenches on all hex nuts. Do not use pliers or vise grips.
6. Avoid "mixing" or interchanging nozzle and needle sets. Paired resin nozzles and needles develop distinctive wear patterns and should remain mated.
7. Avoid submerging entire gun in solvent as residue may clog internal air passages.
8. Avoid dropping gun. Cracked or broken parts could release resins or air under pressure.
9. Inspect seals when gun is disassembled for cleaning. Have a spare set available for replacement if required.
10. Use only a non-metal probe such as a nylon broom straw or round wooden toothpick to clear the orifice holes.

GENERAL GUN CLEANING

1. Submerging the entire gun in solvent will not harm the metallic parts of the gun. However, the lubricant could be washed from the leather packings causing them to dry out and malfunction. In addition, residue from dirty solvent could clog internal air passages. Clean solvent MUST be used, IF IT IS NECESSARY to submerge the gun.
2. Remove the air nozzle when flushing solvent through the resin passages of the gun.
3. Air nozzles may be soaked in clean solvent for washing. The passageways in the external mix air nozzle are particularly critical. Always final rinse with a clean solvent to prevent residue from remaining behind in the minute holes. Do not clean the air nozzle with metal instruments.
4. Exterior surfaces of gun should be kept clean by wiping with a solvent-wet cloth.
5. Exercise care with the curative container and parts. Do not clean in the same solvent that was used in cleaning the gun as residual curative could cause gellation of resin fluid passages of the gun. Remove the curative assembly by separating at swivel nut (35).

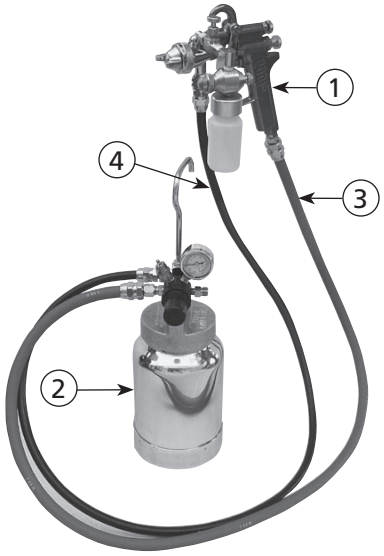
NOZZLE SELECTION CHART

TYPE OF FLUID TO BE SPRAYED	FLUID NOZZLE	SIZE	AIR NOZZLE	FLUID NEEDLE	CFM @ 30 PSI	CFM @ 50 PSI	CFM @ 70 PSI	MAX. PATTERN @ 8 IN.
VERY THIN 14-16 SECONDS #2 ZAHN	66SS (45-6601)	.070" (1.8 mm)	66SD (46-6020)	565 (47-56500)	7.9	12.1		10.5"
HEAVY OVER 28 SECONDS #2 ZAHN	68SS (45-6801)	.110" (2.8 mm)	68PB (46-6032)	568 (47-56800)	9.5	14.1	19.1	12.0"

2100GW ASSEMBLY ORDERING REFERENCE

2100-4307-9GW	66SS X 66SD
2100-5111-5GW	68SS X 68PB

Model 105-1236 2100 GW REMOTE PRESSURE OUTFIT – 2 QUART



PARTS LIST

When ordering, please specify Part No.

ITEM NO.	PART NO.	DESCRIPTION	QTY.	PART SHEET
1	2100-4307-9	2100 GW GUN (66SS X 66SD)	1	77-2936
2	80-295	2 QT. "STEADI-GRIP" PRESSURE CONTAINER	1	77-2823
3	71-1210	AIR HOSE ASSEMBLY	1	
4	71-3380	FLUID HOSE ASSEMBLY	1	

WARRANTY
This product is covered by Binks' 1 Year Limited Warranty.

Binks Sales and Service: www.binks.com

U.S.A./Canada Customer Service
195 Internationale Blvd.
Glendale Heights, IL 60139
630-237-5000

Toll Free Customer Service
and Technical Support
800-992-4657

Toll Free Fax
888-246-5732

77-2936R-1 Revisions: (P1) Added part number; (PP4,5) PTFE reference update; (P8) Updated contact information.

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